



# NETCOM/9<sup>TH</sup> ASC Technical Authority (TA) Implementation Memorandum

**U.S. ARMY ENTERPRISE SYSTEMS TECHNOLOGY ACTIVITY**

**Fort Huachuca, AZ 85613-7070**

Implementation Memorandum Number 2003-005d

[Note: This Implementation Memorandum supersedes 2003-005c, dated 13 Sep 2006]

**Army Enterprise Desktop Standardization**

**Date of Issue: 23 Jul 2007**

**Date of Required Compliance: Upon Receipt**

**Date of Expiration/Suppression: Until Rescinded**

Record of product baseline changes (rescinded following AGM V, refer to Tables 1 to 6)

Date	Section	Type*	Description
08/18/05	1.b.	M	Reflects change in software configuration baseline.
08/18/05	5.a.	M	Replaced CD with DVD as the deliverable format of the Army "Golden Master".
08/18/05	5.a.	A	Includes deployment guidance as an accompanying AGM documentation package.
08/18/05	5.a.	M	Upgraded AGM Build II to AGM Build III with current release date and future release date for AGM Build IV.
08/18/05	5.b.	M	Updated AGM documentation point of contact directorate information.
08/18/05	5.b.(2)	D	Deleted, Microsoft began shipping the new version of Virtual PC November 2004.
08/18/05	5.b.(3)	D	Deleted, MAC OS X 10.3 applications are not functional with CAC except for Netscape and Mozilla.
08/18/05	5.b.(3)	M	Replaced, estimated time for release with current status of evaluation.
08/18/05	5.b.(4)	M	Reworded and updated Mac OS version and website.
08/18/05	5.d.(2)	M	Identified full paragraph designation from 5d to 5.d.(1).
09/09/05	4.	M	Standards defined for Apple Macintosh platforms.
09/09/05	5.a.(1)	M	XP as current baseline OS.
09/09/05	5.b.	M	Macintosh changed from alternative to standard.
09/09/05	5.b.(1)	A	DTS issue.
09/09/05	5.b.(2)	A	Added CARE issue.
09/09/05	5.b.(3)	A	MS Windows programs issue.
09/09/05	5.b.(4)	A	Added AD and CAC issue.
09/09/05	5.c.(1)	D	Deleted Macintosh reference to Table 2.
09/09/05	5.c.(2)	D	Deleted VPC, versions older than VPC 7 are no longer offered by vendors.
09/09/05	5.c.(3)	M	Moved 5.c. (3) to 5.c.(1) and deleted Mac OS X 10.4 and CAC release information.
09/09/05	5.d.(1)	D	Removed: NETCOM also intends to maintain and support previous baselines no older than one version behind the current baseline for each identified platform.
09/09/05	6.b.	M	Split paragraph into subparagraphs.
09/09/05	6.b.(3)	A	Added planning considerations for future MS Windows Vista Operating System.
09/23/05	5.c.(1)	M	Split 5.c.(1) into second paragraph 5.c.(2).
10/27/05	5.a	M	AGM build IV was released to the field 1 Sep. 2005 and will be supported by the AGM IVa release in Nov. 2005. AGM V is scheduled for release in Feb 2006. Release of this version will coincide with transition of the Windows Desktop Environment into operational management as defined by the Army Enterprise Configuration Control Board.

Date	Section	Type*	Description
10/27/05	1	A	Added- As desktop platforms are defined and established, they will transition into the sustainment and management processes that are provided by Enterprise Configuration Control Board. These processes are necessary to move management of these environments into a forum with a wider audience managed directly by operational organizations.
10/27/05	1.c	A	Added- Peer standard environments managed by this document are: (1) The Windows Desktop environment is fundamentally established. This version will continue to be managed by TA up to release of Army Golden Master (AGM) Version V (through Feb 2006). Following this release the baseline and recommended Configurable Items will be transitioned to the Army Enterprise Configuration Control Board for Operational Management. (2) The Apple Macintosh Environment is defined by this document but has not been validated and tested as a functional baseline. (3) Other peer desktop environments remain options to establish, as needs are identified.
10/27/05	5.a.2	A	Added- All standard desktop environments will be brought under configuration control. All solutions to change requests will be applied against the current approved operational baseline and as approved will change the version number of the Operational baseline. Prior to declaring any version changes of the AGM or Operational baseline for release, the Functional (test) baseline will be validated against current DISA STIGs, SRR scripts, and Army approved security scanners.
10/27/05	5.b 3	M	After the word " Project" added the words "and VISIO"
10/27/05	5.b 4	M	Changed first sentence to read, "Remaining Active Directory and CAC card interoperability issues are currently being worked on by Apple Inc"
10/27/05	6.b 4	M	Moved this para to be a footnote to Table 3 for Input Devices/104 Key Keyboard ***
10/27/05	5.d	D	Deleted the words "As a policy"
10/27/05	5.d	A	Added- "Management tools such as HP OpenView, Dell OpenManage, and the EPAs EZ GPO for Active Directory may be used to manage computer energy use. Further information and EZ GPO are available at: <a href="http://www.energystar.gov/index.cfm?c=power_mgt.pr_pm_step5">http://www.energystar.gov/index.cfm?c=power_mgt.pr_pm_step5.</a> "
07/13/05	1c	M	Modified Memorandum 2003-005d version number
07/13/05	5c	A	Added Paragraph 5c

\*A=added; M=modified; D=deleted

## 1. PURPOSE

a. This TA identifies minimum hardware, operating systems, applications, and configuration necessary to establish baselines for personal computer (PC) desktop systems for use throughout the Army. Presently, these systems consist of the Windows and Macintosh computing environments. This TA provides the method for documenting an initial desktop baseline. As minimum system baselines are established, configuration items (CIs) for these desktop systems will transition into the change management and control processes under the Enterprise Configuration Control Board (ECCB). Submit requests for changes to the established baseline CIs via the following e-mail addresses: [esta-aei@netcom.army.mil](mailto:esta-aei@netcom.army.mil) or [aei.techccb@us.army.mil](mailto:aei.techccb@us.army.mil). This TA establishes common user desktop computing environments. This TA does not manage any single-purpose desktop environments, such as Program Manager (PM) developed systems, that are under separate configuration control processes.

b. Descriptions. Desktop computer system configurations include workstation, laptop, and notebook computers. A computing environment, for the purpose of this document, consists of:

- An operating system (OS)
- Compatible hardware
- Software applications
- A configuration necessary to allow all components to work together securely.

c. NETCOM TA Implementation Memorandum 2003-005d supersedes TECHCON Memorandum 2003-005c. This TA reflects changes in the hardware and software configuration baseline for the Army desktop environments.

d. Peer (an alternative of equal value or of the same level) desktop environments defined by this document are:

(1) The Windows desktop baseline. As identified above, the Windows environment has an established baseline and is being prepared for transition to the ECCB for life-cycle management. This transition process will follow release of Army Golden Master (AGM) Version 6.2. ECCB transition is necessary to move management of the baseline into a forum containing a wider audience to include installation Directors of Information Management (DOIM) and the majority of Army users.

(2) The Apple-Macintosh desktop baseline. Configuration and validation testing is working towards the goal of developing an operational baseline for the Apple-Macintosh. Following development of this baseline, it will also transition into management by the ECCB processes.

(3) Other peer desktop environments remain options to establish as resourced, or as required.

## **2. SCOPE**

This TA identifies and applies management to common user desktop computing environments within the LandWarNet (U) and LandWarNet (C) to include stand alone (not network connected) desktops. This TA does not extend to baselines sustained by Program Managers (PM) as configured to support functionality of their products. PMS wishing to use the baselines established by this TA should meet the minimum hardware, software and configuration of system components established by this document.

This TA will also provide the requirement and process to certify a baseline configuration applied by an OEM hardware vendor or reseller.

## **3. REFERENCES**

- a. Memorandum, SAIS-IOM,, Army Policy for use of the Army's Microsoft Enterprise License Agreement (ELA), 4 February 2004.
- b. Message, DAMO-AOC-CAT, 242157ZJUL 03, Army G3 Directed Actions to Correct IAVA Deficiencies, 24 July 2003.
- c. AR 25-1, Army Knowledge Management and Information Technology Management, Paragraph 6-2a, 30 June 2004.
- d. NETCOM/9TH ASC TECHCON, Implementation Memorandum Number 2003-005c, 13 September 2006.
- e. DEFENSE INFORMATION SYSTEMS AGENCY, Sharing Peripherals Across the Network (SPAN) STIG, 28 July 05.

## **4. BACKGROUND**

NETCOM recognizes that no single desktop environment can effectively serve all Army users. This TA outlines the process for establishing a variety of requirements as minimum baseline configurations within the Army desktop computing environment. This variety approach to the multiple computer desktop environments will also mitigate risks associated with heavy reliance on a single desktop environment. This TA defines the minimum baseline configuration for Windows and Macintosh computing environments. As a continuation of this TA and as resources are developed, NETCOM will identify, establish baselines, and provide progress updates to establish other computing platforms as peer desktop environments. This includes, but is not limited to, end user computing technologies such as thin client and OS platforms such as Linux and Sun. The Macintosh computing environment (OS X, 10.4 Tiger) is a peer OS and an alternative to the Microsoft (MS) Windows XP. The list in paragraph 5.b of this document identifies the Macintosh computing environment interoperability issues/limitations.

## 5. GUIDANCE

a. Windows Configuration Baseline. The Army has established a software release management capability based on the Microsoft Enterprise License Agreement (MS-ELA), which will develop and distribute the minimum installation guidelines and templates for a baseline operating system and application configuration. The current release management deliverable is the AGM Digital Video Disks (DVD). The AGM deliverable applies the Army's Windows XP Professional desktop configuration baseline primarily on new builds of Windows desktop computing hardware, but also provides a method to transition existing platforms to an AGM security configuration through Active Directory Group Policy. The AGM release includes installation instructions, configuration documentation, security configuration recommendations, deployment guidance, and known issues. The use of an AGM release requires an existing Windows XP Professional license. Windows desktop licenses are available via the MS-ELA or other US Army MS volume license agreements. The AGM Program releases four annual builds or approximately one every 90 days. There are two full releases (February and August) and two incremental update releases (May and November). A full build will apply the AGM baseline to a default, un-configured operating system. An incremental update will update from a previous full release baseline build. The AGM Windows configurations are transitioning into operational management by the Army ECCB. The current Windows hardware and software configuration baselines are available on AKO at <https://www.us.army.mil/suite/folder/5925501>. To access this folder, type the address into the address line of your web browser, this will take you to the AKO log-on screen. After logging on to AKO it will take you directly to the Army Enterprise Desktop Standards folder.

(1) Due to security and vendor supportability factors for Windows 2000 and older versions, Windows XP SP2 is the current enterprise baseline Windows OS.

(2) The change to Windows XP SP2's restrictive operating system environment may affect required applications and/or functionality. If an organizational requirement exists to maintain a Windows XP SP1 platform, the organization's Designated Approving Authority (DAA) must approve this exception. The DAA must also approve the operational security configuration of the non-SP2 platform. The AGM release documentation, Army regulations, and Department of Defense (DoD) documentation can assist in the development of an organizational Windows XP SP1 configuration.

(3) Defense Information System Agency (DISA) Security Technical Implementation Guides (STIGs) and National Security Guidelines are applied to the XP Professional OS and applications identified in the AGM baseline configuration. Application of the AGM security profile occurs during either the initial build or the upgrade process. Documentation concerning the AGM security profile configuration is available in the AGM documentation package. Local security officers and systems administrators are responsible for identifying, configuring, and documenting deviation(s) from the AGM security profile necessary to balance desktop environment functionality and to maintain an acceptable security posture. The AGM baseline validation occurs prior to release. AGM baseline validation uses the most current DISA STIGs, Security

Readiness Review (SRR) scripts, and Army approved security scanners. Those organizations that do not have access to the AGM documentation package may contact the AGM program at [AGM\\_Support@netcom.army.mil](mailto:AGM_Support@netcom.army.mil). Additional information on the AGM program is available by following the link on the AKO webpage: <https://www.us.army.mil/suite/page/130061>.

b. Macintosh computing environment (Mac OS X). There is no current AGM release product for the Mac OS X computing environment. The AGM Program is currently evaluating OS X and plans to have a release in the near future. This release is dependent upon a solution to join Army Enterprise Active Directory (AD) forests and resolution of the native OS X common access card (CAC) interoperability issue. Procurement of any MS products used in the Macintosh computing environment is accomplished through the MS-ELA or other Army MS Enterprise Agreements. Procurement of any other software such as native Macintosh applications is through normal acquisition processes. The current Mac OS X software and hardware baselines are available at <https://www.us.army.mil/suite/folder/5925501>.

(1) Additional considerations for selecting the Macintosh platform include:

- In order for Mac OS X systems to join AD environments that have been smart card login enabled (e.g. CAC Cryptographic Login), a third party AD client (Thursby AdmitMac for CAC) is required.
- Intel based Mac OS X platforms require a different virtual machine solution (Parallels) from PowerPC based platforms (Virtual PC).
- Defense Travel System (DTS) is not accessible by Mac OS X (requires MS Internet Explorer). DTS is accessible from the Mac platform by using virtual machine software with the Windows XP OS.
- The help desk provider (USBank) does not support customer access and reporting environment (CARE) access by Mac OS X. CARE is accessible from the Mac platform with virtual machine software using the Windows XP OS and MS Internet Explorer.
- Some Windows programs such as MS Project and MS VISIO are not Mac OS X compatible. Non-compatible programs are available via virtual machine software with the Windows XP OS.
- Full CAC functionality is available for Windows applications via virtual machine software.

(2) STIGs and templates are not available for the Macintosh baseline OS X computing environment. The AGM Program is reviewing the National Security Agency Systems and Network Attack Center Apple Mac X v10.3.x Security Configuration Guide, version 1.1, 21 December 2004 ([http://www.nsa.gov/snac/os/applemac/osx\\_client\\_final\\_v\\_1\\_1.pdf](http://www.nsa.gov/snac/os/applemac/osx_client_final_v_1_1.pdf)), Common Criteria

documentation, Army regulations, and best business practices to determine the security configuration. The AGM Program will publish the Mac OS X security configuration to the AGM AKO website listed above upon release.

c. The AGM Program provides baseline configurations to OEM hardware vendors and resellers to support contractual agreements to install a default Army configuration on platforms sold to Army customers. The OEM hardware vendor or reseller may want to include additional applications/software to increase the usability of the computer platform. These types of applications may include, but are not limited to, device drivers, CD/DVD creation utilities, proprietary key functionality (e.g. hotkeys), trial ware/freeware, or management software. The addition of applications/features to an AGM baseline increases the potential for security vulnerabilities. As such, the guidelines defined below will be applied to all additional applications and a final certification document must be completed and accepted by the Army prior to shipment.

(1) Any standalone device driver that does not require or install additional software/applications/utilities will only need to be identified on the final certification document.

(2) Any feature or utility, beyond those defined in an AGM configuration, that establishes a network link or those that can be configured for a product (e.g., software update utilities, product locators, inventory control utilities, etc.) may hinder the Army's ability to implement AR 25-2 paragraph 4-20 NETWORK SECURITY, d. Security Protection Between Enclaves and must be reviewed. All such features and utilities will be explicitly identified and approved by the Government before shipment to the Government.

(3) Any feature or utility, beyond those defined in an AGM configuration, must be identified and approved for use by the Army. The identification must include a detailed description of the feature or utility and justification for inclusion (e.g. the video driver can only be installed through this application). The hardware vendor or reseller must certify that the additional feature or utility does not fall into (2) above.

(4) Any feature or utility, beyond those defined in an AGM configuration, must be identified and approved for use by the Army. The identification must include a detailed description of the feature or utility and justification for inclusion (e.g. the video driver can only be installed through this application). The hardware vendor or reseller must certify that the additional feature or utility does not fall into either (2) or (3) above.

d. In accordance with AR25-1, para. 6-2.f all new purchases of desktop and notebook/laptop equipment will meet Environmental Protection Agency (EPA) Energy Star requirements for energy efficiency. General-purpose office computers, desktops, and personal computers will be logged-off and the display powered off during periods of operator absence. In addition, power configuration options will be set for the lowest power consumption possible during periods of non-use, but still allow for after-hours remote operating system updates, software updates, critical security patches through



the use of remote wake on LAN capabilities. The use of these power configuration settings will reduce energy use during working hours as well as after hours. Use of management tools such as Hewlett-Packard's (HP) OpenView®, Dell OpenManage®, and the EPA's EZ GPO® for AD can assist in controlling computer energy consumption. Further information and EZ GPO are available at link:  
[http://www.energystar.gov/index.cfm?c=power\\_mgt.pr\\_pm\\_step5](http://www.energystar.gov/index.cfm?c=power_mgt.pr_pm_step5).

e. This TA allows flexibility for adding new applications to the operational baseline. A prudent security configuration will be a primary consideration to any modification and adoption of a locally derived (from this TA's standards) baseline. Additional applications will be acquired using normal acquisition processes. The ability of organizations to augment the set of standard desktop applications may change as enterprise configuration management and enterprise systems management processes mature.

(1) Future enterprise maintenance and support capabilities include software upgrades, service packs, and application of vulnerability patches or fixes. As enterprise processes mature, TAs or configuration control processes will specifically address the timing, execution, and details related to release management and patch distribution processes.

(2) This TA establishes minimum configurations to support acceptable functionality. Local security officers and systems administrators are responsible for ensuring security configurations are adequate for their respective operating environments. Deviation below the minimum baseline configurations identified in this TA will only occur in instances where unique mission requirements cannot support functionality requirements. For local baseline development, careful consideration of acceptable security standards and local validation testing (see Page 3, Para. 5.a.2) is required prior to connection to the LandWarNet. Departure from the standard configuration identified herein will entail additional support costs that may become the responsibility of the organization using or requiring use of the non-standard configurations and deviated baselines. Local DOIMs or similar agencies as appointed by the Regional Chief Information Officer (RCIO) should determine the need for non-standard configurations by considering mission need and resulting support requirements. Bringing the desktop computing environments under the control of the ECCB will further define and enrich these AGM baselines. As the AGM baseline develops under the ECCB environment it will absorb, eliminate, or fully define all single purpose, non-standard baselines.

## **6. RESOURCE IMPACT**

a. Life Cycle Upgrades. Installation of the standard software configuration baseline may require hardware upgrades or replacements. References 3.b and 3.c require that hardware upgrades and replacements occur as part of the technological lifecycle refreshment. Hardware lifecycle replacement is the responsibility of the owning (user) organization.

b. Windows Platform. The current Windows minimum desktop and notebook hardware and Army standard software configuration baselines are available on AKO at <https://www.us.army.mil/suite/folder/5925501>. Recommendations for these minimum hardware requirements come from vendors to allow for future growth and to prevent premature obsolescence.

(1) The recommended hardware and Army standard software baselines do not apply to Windows Mobile or Pocket-PC (PPC) based computing environments.

(2) The minimum system requirements for operating Windows XP Professional are available at: <http://www.microsoft.com/windowsxp/pro/evaluation/sysreqs.asp>. The minimum hardware identified in <https://www.us.army.mil/suite/folder/5925501> should not be interpreted as the absolute minimum required for effectively operating the Windows baseline. The AGM baseline contains only upgrade licenses. The AKM does not provide the full product versions of the OS. Purchases of all workstations, laptops, and notebooks must contain an OS that is supportable by the upgrade.

(3) Planning Considerations for future Microsoft Windows Vista OS. Official release of the hardware requirements supporting Windows Vista is currently available. The current Windows minimum hardware requirements and Army standard software configuration baselines are available on AKO at <https://www.us.army.mil/suite/folder/5925501>, and those below, are for planning hardware purchases to accommodate future releases of Vista:

- A graphics processor supporting Windows-Vista Display Driver Model (WDDM) is necessary to make full use of enhanced graphic capabilities in Vista. The Intel 945G express chipset, ATI RS400 or RS480, and various NVIDIA GeForce family chipsets are prospective targets for providing Vista support. There is also industry consideration for support of dual channel Unified Memory Architecture (UMA) solutions and 1 GB of system memory. Without these upgrades, the user will not experience the full Windows Vista graphics experience.
- Support for SATA hard drives, 8MB cache, and Native Command Queuing.
- A 32-bit processor is nominally adequate. A 64-bit processor is optimal.
- Trusted Platform Module version 1.2 enabled hardware with associated Core Root of Trust Measurements (CRTM) is required to ensure new security capabilities in Vista are fully leveraged.

c. Macintosh Alternative Platform. The current Macintosh minimum desktop and notebook hardware and Army standard software configuration baselines are available on AKO at <https://www.us.army.mil/suite/folder/5925501>. As with the Windows platform, the specifications is from vendor recommendations and the installation of the standard Macintosh software configuration baseline may require hardware upgrades or

replacements (see paragraph 6.a). Any upgrades or replacements should occur as part of normal lifecycle refreshment.

d. Use of keyboard, video, and mouse (KVM) switches. Users planning to share peripherals through a KVM switch on LandWarNet (U) and LandWarNet (C) CPU should review the DISA Sharing Peripherals Across the Network (SPAN) STIG, 28 Jul 05 to ensure compliance with DoD policy. In planning equipment procurement, the approved KVM switches will only accept keyboards and mice with PS/2 connectors and Video Graphics Array (VGA) monitor connectors (adaptors may be required for other monitor connectors).

## **7. TECHNICAL POC**

The Technical POC is Ms. Nichele Williams, NETCOM-ESTA-IPD I, 703-602-7449, e-mail [nichele.williams@us.army.mil](mailto:nichele.williams@us.army.mil).